Gunter, Jason

From:

Nations, Mark <mnations@doerun.com>

Sent:

Tuesday, February 11, 2014 9:17 AM

To:

Gunter, Jason

Cc:

Yingling, Mark; Wohl, Matthew; robert.hinkson@dnr.mo.gov; brandon.wiles@dnr.mo.gov; Ty Morris (TMorris@barr.com); Sanders, Amy B.; Cummings, Mark

Subject:

Leadwood January 2014 Progress Report

Attachments:

LW 01-14[1].doc; 2014-01-23 LW NPDES Pace Lab Report.pdf; 2014-01-28 LW NPDES SS

Pace Lab Report.pdf; LW_01-14[1].doc

Categories:

Red Category

Jason,

Attached is the January report. Let me know if you have questions.

Superfund



Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

February 10, 2014

Mr. Jason Gunter Remedial Project Manager U.S. Environmental Protection Agency Region 7 - Superfund Branch 11201 Renner Blvd. Lenexa, KS 66219

Re: The Doe Run Company - Leadwood Mine Tailings Site Monthly Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 50 of the Unilateral Administrative Order (Docket No. CERCLA-07-2006-0272) for the referenced project and on behalf of The Doe Run Company, the progress report for the period January 1, 2014 through January 31, 2014 is enclosed. If you have any questions or comments, please call me at 573-518-0800.

Sincerely,

Mark Nations

Mining Properties Manager

Enclosures

c: Mark Yingling - TDRC (electronic only)

Matt Wohl - TDRC (electronic only)

Robert Hinkson – MDNR Brandon Wiles – MDNR

Ty Morris – Barr Engineering

Leadwood Mine Tailings Site

Leadwood, Missouri

Removal Action - Monthly Progress Report

Period: January 1, 2014 – January 31, 2014

1. Actions Performed or Completed This Period:

a. None.

2. Data and Results Received This Period:

a. During this period, water samples were collected from downstream of Leadwood Dam and the East Seep and Erosion Area, as well as from upstream and downstream of the confluence of Eaton Creek with Big River. The analytical results for this event are included with this progress report.

3. Scheduled Activities not Completed This Period:

a. None.

4. Planned Activities for Next Period:

- a. Continue vegetation maintenance activities. The use of biosolids will only be continued if a biosolids management plan has been submitted to and approved by EPA.
- b. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- c. Complete air monitoring activities as described in the Removal Action Work Plan.

5. Changes in Personnel:

a. None.

6. Issues or Problems Arising This Period:

a. None.

7. Resolution of Issues or Problems Arising This Period:

a. None.





January 31, 2014

Amy Sanders The Doe Run Company P. O. Box 500 Viburnum, MO 65566

RE: Project: NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on January 24, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

jamie.church@pacelabs.com

Project Manager

Enclosures







CERTIFICATIONS

Project:

NPDES MONTHLY (LEADWOOD)

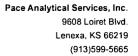
Pace Project No.:

60161861

Kansas Certification IDs

Ashas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3 Illinois Certification #: 03097





SAMPLE SUMMARY

Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|---------------------|--------|----------------|----------------|
| 60161861001 | LEADWOOD 001 | Water | 01/23/14 12:36 | 01/24/14 08:45 |
| 60161861002 | LEADWOOD 002 | Water | 01/23/14 12:46 | 01/24/14 08:45 |
| 60161861003 | LEADWOOD UPSTREAM | Water | 01/23/14 12:17 | 01/24/14 08:45 |
| 60161861004 | LEADWOOD DOWNSTREAM | Water | 01/23/14 11:54 | 01/24/14 08:45 |



SAMPLE ANALYTE COUNT

Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

60161861

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|-------------|---------------------|-----------|----------|----------------------|------------|
| 60161861001 | LEADWOOD 001 | EPA 200.7 | NDJ | 3 | PASI-K |
| | | SM 2540D | JMC | 1 | PASI-K |
| | | EPA 300.0 | OL | 1 | PASI-K |
| 60161861002 | LEADWOOD 002 | EPA 200.7 | NDJ | 3 | PASI-K |
| | | SM 2540D | JMC | 1 | PASI-K |
| | | EPA 300.0 | OL | 1 | PASI-K |
| 60161861003 | LEADWOOD UPSTREAM | EPA 200.7 | NDJ | 6 | PASI-K |
| | | EPA 200.7 | NDJ | 3 | PASI-K |
| | | SM 2540D | JMC | 1 | PASI-K |
| | | EPA 300.0 | OL | 1 | PASI-K |
| 60161861004 | LEADWOOD DOWNSTREAM | EPA 200.7 | NDJ | 6 | PASI-K |
| | | EPA 200.7 | NDJ | 3 | PASI-K |
| | | SM 2540D | JMC | 1 | PASI-K |
| | | EPA 300.0 | OL | 1 | PASI-K |

REPORT OF LABORATORY ANALYSIS



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| Sample: LEADWOOD 001 | Lab ID: 601618610 | 001 Collecte | d: 01/23/14 | 12:36 | Received: 01/ | /24/14 08:45 M | atrix: Water | |
|------------------------------|-----------------------|----------------|-------------|--------|----------------|----------------|--------------|------|
| | · | Report | | | | | | |
| Parameters | Results Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 200.7 Metals, Total | Analytical Method: EF | PA 200.7 Prepa | ration Meth | od: EF | PA 200.7 | | | |
| Cadmium | 4.9J ug/L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 12:26 | 7440-43-9 | |
| Lead | 21.0 ug/L | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 12:26 | 7439-92-1 | |
| Zinc | 4650 ug/L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 12:26 | 7440-66-6 | |
| 2540D Total Suspended Solids | Analytical Method: SN | M 2540D | | | | | | |
| Total Suspended Solids | 6.0 mg/L | 5.0 | 5.0 | 1 | | 01/28/14 16:11 | | |
| 300.0 IC Anions 28 Days | Analytical Method: EF | PA 300.0 | | | | | | |
| Sulfate | 372 mg/L | 50.0 | 2.8 | 50 | | 01/29/14 13:40 | 14808-79-8 | |



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| Sample: LEADWOOD 002 | Lab ID: 601618610 | 02 Collecte | d: 01/23/14 | 12:46 | Received: 01/ | 24/14 08:45 Ma | atrix: Water | |
|------------------------------|-----------------------|-----------------|--------------|--------|----------------|----------------|--------------|------|
| Parameters | Results Units | Report Limit | MDL_ | DF | Prepared | Analyzed | CAS No. | Qual |
| 200.7 Metals, Total | Analytical Method: EF | A 200.7 Prepa | aration Meth | od: EP | A 200.7 | | | |
| Cadmium | 6.0 ug/L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 12:28 | 7440-43-9 | |
| Lead | 8.4 ug/L | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 12:28 | 7439-92-1 | |
| Zinc | 6900 ug/L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 12:28 | 7440-66-6 | |
| 2540D Total Suspended Solids | Analytical Method: SN | 1 2540D | | | | | | |
| Total Suspended Solids | ND mg/L | 5.0 | 5.0 | 1 | | 01/28/14 16:13 | | |
| 300.0 IC Anions 28 Days | Analytical Method: EF | A 300.0 | | | | | | |
| Sulfate | 475 mg/L | 50.0 | 2.8 | 50 | | 01/29/14 14:24 | 14808-79-8 | |



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| Sample: LEADWOOD UPSTREAM | Lab ID: 6 | 0161861003 | Collected | d: 01/23/1 | 1 12:17 | Received: 01/ | 24/14 08:45 Ma | atrix: Water | |
|------------------------------|------------------|---------------|-------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | • | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 200.7 Metals, Total | Analytical M | lethod: EPA 2 | :00.7 Prepa | ration Meth | od: EP | A 200.7 | | | |
| Cadmium | ND ug/ | L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 12:30 | 7440-43-9 | |
| Calcium | 34700 ug/ | L | 100 | 10.4 | 1 | 01/28/14 17:00 | 01/29/14 12:30 | 7440-70-2 | |
| Lead | ND ug/ | Ļ | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 12:30 | 7439-92-1 | |
| Magnesium | 20700 ug/ | Ļ | 50.0 | 6.5 | 1 | 01/28/14 17:00 | 01/29/14 12:30 | 7439-95-4 | |
| Total Hardness by 2340B | 172000 ug/ | L | 500 | | 1 | 01/28/14 17:00 | 01/29/14 12:30 | | |
| Zinc | ND ug/ | L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 12:30 | 7440-66-6 | |
| 200.7 Metals, Dissolved (LF) | Analytical M | lethod: EPA 2 | .00.7 Prepa | ration Meth | od: EP | A 200.7 | | | |
| Cadmium, Dissolved | ND ug/l | L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 13:37 | 7440-43-9 | |
| Lead, Dissolved | ND ug/ | L | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 13:37 | 7439-92-1 | |
| Zinc, Dissolved | 10.8J ug/ | L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 13:37 | 7440-66-6 | |
| 2540D Total Suspended Solids | Analytical M | lethod: SM 25 | 540D | | | | | | |
| Total Suspended Solids | ND mg/ | /L | 5.0 | 5.0 | 1 | | 01/28/14 16:13 | | |
| 300.0 IC Anions 28 Days | Analytical M | lethod: EPA 3 | 0.00 | | | | | | |
| Sulfate | 14.7 mg/ | /L | 2.0 | 0.11 | 2 | | 01/29/14 14:38 | 14808-79-8 | |



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| Sample: LEADWOOD DOWNSTREAM | Lab ID: | 60161861004 | Collected | d: 01/23/1 | 4 11:54 | Received: 01/ | 24/14 08:45 Ma | atrix: Water | |
|------------------------------|------------------|---------------|-------------|-------------|---------|----------------|----------------|--------------|------|
| | | | Report | | | | | | |
| Parameters | Results | Units | Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 200.7 Metals, Total | Analytical | Method: EPA 2 | 200.7 Prepa | ration Meth | nod: EP | A 200.7 . | | | |
| Cadmium | ND ug | g/L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 12:33 | 7440-43-9 | |
| Calcium | 36300 ug | g/L | 100 | 10.4 | 1 | 01/28/14 17:00 | 01/29/14 12:33 | 7440-70-2 | |
| Lead | ND ug | g/L | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 12:33 | 7439-92-1 | |
| Magnesium | 21300 ug | g/L | 50.0 | 6.5 | 1 | 01/28/14 17:00 | 01/29/14 12:33 | 7439-95-4 | |
| Total Hardness by 2340B | 179000 ug | g/L | 500 | | 1 | 01/28/14 17:00 | 01/29/14 12:33 | | |
| Zinc | 15.9J u | g/L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 12:33 | 7440-66-6 | |
| 200.7 Metals, Dissolved (LF) | Analytical | Method: EPA 2 | 200.7 Prepa | ration Meth | nod: EP | A 200.7 | | | |
| Cadmium, Dissolved | ND ug | g/L | 5.0 | 2.5 | 1 | 01/28/14 17:00 | 01/29/14 13:39 | 7440-43-9 | |
| Lead, Dissolved | ND ug | g/L | 5.0 | 2.4 | 1 | 01/28/14 17:00 | 01/29/14 13:39 | 7439-92-1 | |
| Zinc, Dissolved | 40.4J u | g/L | 50.0 | 3.3 | 1 | 01/28/14 17:00 | 01/29/14 13:39 | 7440-66-6 | |
| 2540D Total Suspended Solids | Analytical | Method: SM 2 | 540D | | | | | | |
| Total Suspended Solids | ND m | g/L | 5.0 | 5.0 | 1 | | 01/28/14 16:14 | | |
| 300.0 IC Anions 28 Days | Analytical | Method: EPA 3 | 300.0 | | | | | | |
| Sulfate | 19.9 m | g/L | 5.0 | 0.28 | 5 | | 01/29/14 14:52 | 14808-79-8 | |



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

60161861

QC Batch:

MPRP/26007

Analysis Method:

EPA 200.7

QC Batch Method:

EPA 200.7

Analysis Description:

200.7 Metals, Total

Associated Lab Samples:

60161861001, 60161861002, 60161861003, 60161861004

Matrix: Water

METHOD BLANK: 1322792 Associated Lab Samples:

Date: 01/31/2014 01:29 PM

60161861001, 60161861002, 60161861003, 60161861004

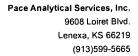
| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|-------------------------|-------|-----------------|--------------------|----------------|------------|
| Cadmium | ug/L | ND | 5.0 | 01/29/14 12:01 | |
| Calcium | ug/L | ND | 100 | 01/29/14 12:01 | |
| Lead | ug/L | ND | 5.0 | 01/29/14 12:01 | |
| Magnesium | ug/L | ND | 50.0 | 01/29/14 12:01 | |
| Total Hardness by 2340B | ug/L | ND | 500 | 01/29/14 12:01 | |
| Zinc | ug/L | ND | 50.0 | 01/29/14 12:01 | |

| LABORATORY CONTROL SAM | PLE: 1322793 | | | | | |
|-------------------------|--------------|-------|--------|-------|--------|------------|
| | | Spike | LCS | LCS | % Rec | |
| Parameter | Units | Conc. | Result | % Rec | Limits | Qualifiers |
| Cadmium | ug/L | 1000 | 992 | 99 | 85-115 | |
| Calcium | ug/L | 10000 | 9800 | 98 | 85-115 | |
| Lead | ug/L | 1000 | 1020 | 102 | 85-115 | |
| Magnesium | ug/L | 10000 | 10200 | 102 | 85-115 | |
| Total Hardness by 2340B | ug/L | | 66400 | | | |
| Zinc | ug/L | 1000 | 996 | 100 | 85-115 | |

| MATRIX SPIKE & MATRIX SP | PIKE DUPLICAT | E: 13227 | 94 | | 1322795 | | | | | | | |
|--------------------------|---------------|-----------|-------------|--------------|---------|--------|-------|-------|--------|-----|-----|------|
| | 60 | 161839001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Cadmium | ug/L | ND | 1000 | 1000 | 1010 | 1010 | 101 | 101 | 70-130 | | 10 | |
| Calcium | ug/L | 104000 | 10000 | 10000 | 112000 | 113000 | 81 | 84 | 70-130 | 0 | 9 | |
| Lead | ug/L | 7.3 | 1000 | 1000 | 991 | 989 | 98 | 98 | 70-130 | 0 | 10 | |
| Magnesium | ug/L | 57200 | 10000 | 10000 | 66300 | 66600 | 91 | 94 | 70-130 | 1 | 9 | |
| Total Hardness by 2340B | ug/L | 496000 | | | 554000 | 556000 | | | | 0 | | |
| Zinc | ug/L | 159 | 1000 | 1000 | 1140 | 1130 | 98 | 97 | 70-130 | 1 | 11 | |

| MATRIX SPIKE & MATRIX | SPIKE DUPLICAT | E: 13227 | 96 | | 1322797 | | | | | | | |
|-----------------------|--------------------------|---------------------|----------------------|-----------------------|--------------|----------------|-------------|-------|--------|-----|-----|------|
| Parameter | 60 [.] Units | 161892001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | M\$D Result | MS % Box | MSD | % Rec | | Max | Ougl |
| Parameter | Offics | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | KPU | Qual |
| Cadmium | ug/L | ND | 1000 | 1000 | 1060 | 1060 | 106 | 106 | 70-130 | 0 | 10 | |
| Calcium | ug/L | 54.6 mg/L | 10000 | 10000 | 63500 | 63600 | 90 | 90 | 70-130 | 0 | 9 | |
| Lead | ug/L | ND | 1000 | 1000 | 950 | 951 | 95 | 95 | 70-130 | 0 | 10 | |
| Magnesium | ug/L | 399 mg/L | 10000 | 10000 | 404000 | 403000 | 53 | 43 | 70-130 | 0 | 9 | M1 |

REPORT OF LABORATORY ANALYSIS





Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 60161861

| MATRIX SPIKE & MATRIX SI | PIKE DUPLICAT | E: 13227 | 96 | | 1322797 | _ | | | | | | |
|--------------------------|---------------|--------------|-------------|--------------|---------|---------|-------|-------|--------|-----|-----|------|
| | 60 | 161892001 | MS Spike | MSD Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Total Hardness by 2340B | ug/L | 1780 mg/L | | | 1820000 | 1820000 | | | | 0 | | |
| Zinc | ug/L | ŇD | 1000 | 1000 | 979 | 976 | 98 | 98 | 70-130 | 0 | 11 | |



Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

60161861

QC Batch:

MPRP/26023

Analysis Method:

EPA 200.7

QC Batch Method:

EPA 200.7

Analysis Description:

200.7 Metals, Dissolved

Associated Lab Samples:

60161861003, 60161861004

METHOD BLANK: 1323393

Matrix: Water

Date: 01/31/2014 01:29 PM

Associated Lab Samples: 60161861003, 60161861004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|--------------------|----------|-----------------|--------------------|----------------|------------|
| Cadmium, Dissolved | ug/L | ND ND | 5.0 | 01/29/14 13:14 | |
| Lead, Dissolved | ug/L | ND | 5.0 | 01/29/14 13:14 | |
| Zinc, Dissolved | ug/L | ND | 50.0 | 01/29/14 13:14 | |

| LABORATORY CONTROL SAMPLE: | 1323394 | Cnika | 1.00 | 1.00 | % Rec | |
|----------------------------|---------|----------------|---------------|--------------|--------|------------|
| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec | Qualifiers |
| Cadmium, Dissolved | ug/L | 1000 | 1040 | 104 | 85-115 | |
| Lead, Dissolved | ug/L | 1000 | 1050 | 105 | 85-115 | |
| Zinc, Dissolved | ug/L | 1000 | 1020 | 102 | 85-115 | |

| MATRIX SPIKE & MATRIX S | PIKE DUPLICAT | E: 13233 | 95 | | 1323396 | | | | | | | |
|-------------------------|---------------|-----------|-------|-------|---------|--------|-------|-------|--------|-----|-----|------|
| | | | MS | MSD | | | | | | | | |
| | 60 | 161839001 | Spike | Spike | MS | MSD | MS | MSD | % Rec | | Max | |
| Parameter | Units | Result | Conc. | Conc. | Result | Result | % Rec | % Rec | Limits | RPD | RPD | Qual |
| Cadmium, Dissolved | ug/L | ND | 1000 | 1000 | 1040 | 1050 | 104 | 105 | 70-130 | 1 | 10 | • |
| Lead, Dissolved | ug/L | 4.1J | 1000 | 1000 | 1030 | 1030 | 102 | 102 | 70-130 | 0 | 10 | - |
| Zinc, Dissolved | ug/L | 131 | 1000 | 1000 | 1130 | 1140 | 100 | 100 | 70-130 | 1 | 11 | |





Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

60161861

QC Batch:

WET/45839

Analysis Method:

SM 2540D

QC Batch Method:

SM 2540D

Analysis Description:

2540D Total Suspended Solids

Associated Lab Samples:

METHOD BLANK: 1323386

Parameter

Parameter

60161861001, 60161861002, 60161861003, 60161861004

Matrix: Water

Associated Lab Samples:

60161861001, 60161861002, 60161861003, 60161861004

Blank Result Reporting

Limit

Analyzed

Qualifiers

Total Suspended Solids

mg/L

Units

Units

ND

5.0 01/28/14 16:08

SAMPLE DUPLICATE: 1323387

60161715002

Dup Result RPD

Max RPD

Qualifiers

Total Suspended Solids

mg/L

Result 5.0

5.0

0

SAMPLE DUPLICATE: 1323388

Parameter

Units

60161861002 Result

Dup Result

RPD

Max RPD

Qualifiers

Total Suspended Solids

Date: 01/31/2014 01:29 PM

mg/L

ND

ND

10

10

REPORT OF LABORATORY ANALYSIS

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Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

60161861

QC Batch:

WETA/27971

Analysis Method:

EPA 300.0

QC Batch Method:

EPA 300.0

Analysis Description:

300.0 IC Anions

Associated Lab Samples:

60161861001, 60161861002, 60161861003, 60161861004

METHOD BLANK: 1323269 Associated Lab Samples:

Matrix: Water

60161861001, 60161861002, 60161861003, 60161861004

Units

Units

Blank

Result

Reporting

Limit

Analyzed

Qualifiers

Sulfate

mg/L

ND

1.0 01/29/14 12:14

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Date: 01/31/2014 01:29 PM

Parameter

1323270

Spike

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Sulfate

mg/L

Conc. 5

5.0

99

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

1323271

1323272

MSD

MS

MSD

90-110

MSD

96

% Rec

Max Qual

mg/L

Units

MS Spike Conc.

Spike Conc.

Result Result

MS % Rec 97

% Rec

Limits

RPD RPD

Sulfate

Result 3570

60161509001

2500

2500

5990

5980

80-120

0 15

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QUALIFIERS

Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.: 601

60161861

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

Date: 01/31/2014 01:29 PM

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

NPDES MONTHLY (LEADWOOD)

Pace Project No.:

Date: 01/31/2014 01:29 PM

60161861

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|-------------|---------------------|-----------------|------------|-------------------|---------------------|
| 60161861001 | LEADWOOD 001 | EPA 200.7 | MPRP/26007 | EPA 200.7 | ICP/19908 |
| 60161861002 | LEADWOOD 002 | EPA 200.7 | MPRP/26007 | EPA 200.7 | ICP/19908 |
| 60161861003 | LEADWOOD UPSTREAM | EPA 200.7 | MPRP/26007 | EPA 200.7 | ICP/19908 |
| 60161861004 | LEADWOOD DOWNSTREAM | EPA 200.7 | MPRP/26007 | EPA 200.7 | ICP/19908 |
| 60161861003 | LEADWOOD UPSTREAM | EPA 200.7 | MPRP/26023 | EPA 200.7 | ICP/19907 |
| 60161861004 | LEADWOOD DOWNSTREAM | EPA 200.7 | MPRP/26023 | EPA 200.7 | ICP/19907 |
| 60161861001 | LEADWOOD 001 | SM 2540D | WET/45839 | | |
| 60161861002 | LEADWOOD 002 | SM 2540D | WET/45839 | | |
| 60161861003 | LEADWOOD UPSTREAM | SM 2540D | WET/45839 | | |
| 60161861004 | LEADWOOD DOWNSTREAM | SM 2540D | WET/45839 | | |
| 60161861001 | LEADWOOD 001 | EPA 300.0 | WETA/27971 | | |
| 60161861002 | LEADWOOD 002 | EPA 300.0 | WETA/27971 | | |
| 60161861003 | LEADWOOD UPSTREAM | EPA 300.0 | WETA/27971 | | |
| 60161861004 | LEADWOOD DOWNSTREAM | EPA 300.0 | WETA/27971 | | |



Sample Condition Upon Receipt

WO#:60161861

797767743188

| ient Name: Doe Run | | | Optional |
|--|---|--|------------------------------------|
| urier: Fed Ex D UPS D USPS D Client D | Commercial □ Pace | Other 🗆 | Proj Due Date: |
| C 1/24/14 | Pace Shipping Label Use | ed? Yes □ No√□ | Proj Name: |
| stody Seal on Cooler/Box Present: Yes No | ☐ Seals intact: Yes | No 🗆 | |
| cking Material: Bubble Wrap ☐ Bubble Ba | | None Other | Page |
| ermometer Used: 7-239 / T-194 Ty | P = | Annual Contract of the Contrac | on ice, cooling process has begun. |
| poler Temperature: 0 1 | (circle o | Date and in contents: | itials of person examining |
| mperature should be above freezing to 6°C | | Communa | 0 1/24/11 |
| nain of Custody present: | Yes ONO ONA 1 | | |
| hain of Custody filled out: | Thes DNO DN/A 2 | | |
| hain of Custody relinquished: | Ves ONO ONA |). | |
| ampler name & signature on COC: | Yes ONO ONA | ١. | |
| amples arrived within holding time: | NYes ONO ONA | 5. | |
| hort Hold Time analyses (<72hr): | Diges Ono Onia | 3. Sett Sol | |
| ush Turn Around Time requested: | □Yes SNO □N/A | 7. | |
| ufficient volume: | YQYes □No □N/A | 8. | |
| correct containers used: | Yes □No □N/A | | |
| | Nyes □No □N/A | 9 | |
| containers used: | □Yes DNO □N/A | 10. No Wlune fo | r sitt sol |
| Inpreserved 5035A soils frozen w/in 48hrs? | □Yes □No 国N/A | 11. | |
| | □Yes □No □N/A | 12. | |
| iltered volume received for dissolved tests? | √Yes □No □N/A | 12. | |
| Sample labels match COC: | , | | |
| Includes date/time/ID/analyses Matrix: L | | 13. | |
| All containers needing preservation have been checked. | Yes 🗆 No 🗀 N/A | | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | Öves □No □N/A | 14. | |
| Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics | □Yes No | Initial when completed | Lot # of added preservative |
| Trip Blank present: | □Yes \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | |
| Pace Trip Blank lot # (if purchased): | , | 15. | |
| Headspace in VOA vials (>6mm): | □Yes □No 內NA | | |
| | | 16. | |
| Project sampled in USDA Regulated Area: | □Yes □No NN/A | 17. List State: | |
| | COC to Client? Y | | ? Y / N |
| | D. I. Timo | | |
| Person Contacted: | | | |
| Comments/ Resolution | Per Amy Sanders, | Settleable Solids will be re | collected. 1/24/14 JLC |
| Jame Church | | 1/24/14 | |
| Project Manager Review: | | Date | |



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section Required | A Client Information: | | Section B Required P | roject | | | | | | | Invoid | | rmation | | | | | | | | _ | | | | | | Ŀ | Page: | 1 | of | 1 | |
|------------------|---|---|-------------------------|--|--------------|----------|------------|----------------|-------------|-------------|------------|-----------------|---------|-------|-----------------|---------------|--------------|----------|------------|---------|-------------------------|----------|------------|--------|-------|-----------|-----|------------|-----------------------|---------------------|---------|----------------------|
| Company: | The Doe Run | Company | Report To: | Amy | San | ders | | | | 1 | Attent | - | | | ander | | _ | | | | \dashv | | | | | | | | | | | |
| Address: | PO Box 500 | | Copy To: | | | | | | | | | | lame: | | | | | | | | _ | REG | BUL | ATOF | | | | p. 10 | | | | |
| | Viburnum, MC | 65566 | | | | | | | | 1 | Addre | ess: | P | O Box | k 500 | , Vibu | ımur | m, M | O 65 | 566 | | - | NPI | DES | Γ | GRO | UND | WATE | | DRINKING | WATER | R |
| Email To: | asanders@do | erun.com | Purchase 0 | order f | V O,: | | | | | | Pace (| | | | | | | | | | _ | Г | UST | Г | Г | RCR | 4 | | R | OTHER | ,,,,,,, | ,,,,,,,, |
| Phone: | 573-689-4535 | Fax: 573-244-8179 | Project Nan | ne: | NPD | ES Mont | hly (Lead | lwood) | | | Pace Manag | Project ger. | Ja | mie | Churc | ch | | | | | | Site | e Lo | cation | • | N | 10 | F | | | | |
| Requeste | d Due Date/TAT: | 5 - 7 Days | Project Nun | roject Number: Pace Profile #: Requested Anal | | | | | | | | | | | | | TATE: | | | | _ | | | | | | | | | | | |
| | | | | | | | | | | _ | _ | _ | | | | | 4 | _ | Req | ues | ted / | Anat | ysis | Filte | red (| Y/N) | - | | | | | |
| | Section D Required Client Informatio | | CODE | to left) | C=COMP) | | COLL | ECTED | | | | L | Pr | esen | rative | s | | N/A | NN | N | N | N | N | + | Н | 4 | + | | | | | |
| | | DRINKING WATER WASTE WATER PRODUCT SOURSOUD | WT WW P | valid codes to | | COMP | | COMPO END/G | SITE RAB | COLLECTION | | | | | | | | | | | | | olved | | | | | (N/N) | | | | |
| | SAMPLE (A-Z, 0-9 / | E ID | | | | | | | | | | | | | | n - Dissolved | | | | | Residual Chlorine (Y/N) | (0 | 0161 | 861 | | | | | | | | |
| * | Sample 1Ds MUST E | BE UNIQUE | TS | MATRIX CODE | SAMPLE TYPE | | | | | SAMPLE TEMP | # OF CONT | Unpreserved | HNO. | | NaOH Na-S-O- | Methanol | Other | Analysis | Settleable | Sulfate | Cd, Pb, Zn | Hardness | Cd, Pb, Zn | | | | | esidual | | | | |
| TEM | | | | Ž | SAI | DATE | TIME | DATE | TIME | AS. | # | 5 | 구 도 | 모 | ZZ | Ž | ŏ. | 3 | Set 18 | 3 | ပိ | 포 | ರ | + | + | H | + | +- | | Project N | | υ) |
| 1 | | Leadwood 001 | | ww | G | | | 1/23/14 | 1236 | L | 3 | 2 | 1 | | 1 | + | - | | X X | - | + | H | - | + | + | \vdash | + | N | - | BP3N | 1.5 | w |
| 2 | 9 | Leadwood 002 | | ww | G | | | 1/23/14 | 1246 | 1 | 3 | 1 | 1 | 4 | _ | + | Н | | x x | (X | 1 | H | - | + | + | \vdash | + | N | 1 | V | 00 | LK 03 |
| 3 | Lea | adwood Upstream | | w | G | | | 1/23/14 | 1217 | ╀ | 2 | 1 | 1 | 4 | + | + | - | | X | X | + | 1 | X | + | + | \vdash | + | N | JV | <u> </u> | D F | V AM |
| 4 | Lead | twood Downstream | | w | G | | | 1/23/14 | 1154 | ╀ | 2 | 1 | 1 | 4 | - | + | \mathbf{H} | - | X | × | × | X | X | + | + | \vdash | + | N | | V | | VAM |
| 5 | | | | L | _ | | | | - | ╀ | ╀ | + | 1 | + | + | + | Н | - | + | + | + | Н | \vdash | + | + | \vdash | + | + | | | | |
| 6 | | | | _ | - | | | - | | ╀ | - | + | H | + | + | + | Н | - | + | + | + | H | H | + | + | H | + | + | - | | | |
| 7 | | | | ┡ | - | | - | - | | + | ╀ | + | + | + | + | + | Н | H | + | + | + | Н | H | + | + | H | + | + | | | | |
| 8 | | | | ┡ | - | - | - | - | - | ╀ | ╀ | + | 1 | + | + | + | Н | ŀ | + | + | + | 1 | H | + | + | \vdash | + | + | | | | |
| 9 | | | | ┡ | - | | + | - | - | ╀ | ╀ | + | + | + | + | + | Н | H | + | + | + | H | | + | + | \forall | + | + | | | | |
| 10 | | | | ┡ | - | - | - | - | - | ╀ | ╁ | + | + | + | \vdash | + | Н | | + | + | + | \vdash | \vdash | + | + | \vdash | + | + | | | | |
| 11 | | | | ╀ | \vdash | - | + | - | - | ╀ | ╀ | + | + | + | + | + | Н | | + | + | + | \vdash | H | + | + | \forall | + | + | | | | |
| 12 | | | | | 1000 | IEUED BY | / AEEH IAT | ION 3 | DAT | _ | | TIME | 10000 | | | CCEP | TED | BY | AFFIL | IATIO | ON | | | DATE | | TIME | | | SAMI | PLE CONDI | TIONS | |
| + 200 A T | otal Recoeverable Meta | L COMMENTS | | KE | | 111 | AFFILIAT | 2124-1 | | - September | The same | 300 | | 1 | F15724-50 | | 100 mar. 1 | artist. | | 10000 | | | 1/- | 24/1 | 10 | "/ | | 1.4 | V | 1 | Ty | |
| | ed within 24 hours with f | | 1 | 22 | 14/ | 157 fb | 4 43 | my Hope | 1/23/ | 14 | 12 | 301 | + | SI | de | e. | mi | 30 | 21 | PA | لردا | - | 73 | 2911 | US | 43 | 0 | -φ | 1 | 7 | 17 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | Ū | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | _ | * |
| | | | | | | | SAMPL | ER NAME | | 11000 | | | | | | | | | | | | | | | | | | Temp in ⁴C | Received on Ice (Y/N) | y Sealed r (Y/N) | | ples Intact (Y/N) |
| 2 | 7 of 1 | | | | | | - | PRINT Nat | | | | _ | pkin | - | 6 | h | 200 | | | E Sig | | | | 1/2 | 3/14 | | | Temp | Recel | Custody | | Sample S |





February 04, 2014

Amy Sanders The Doe Run Company P. O. Box 500 Viburnum, MO 65566

RE: Project: NPDES Monthly (Leadwood)

Pace Project No.: 60162285 REVISION, REV-1 2/4/14

Dear Amy Sanders:

Enclosed are the analytical results for sample(s) received by the laboratory on January 31, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

jamie.church@pacelabs.com

Project Manager

Jam: Church

Enclosures







CERTIFICATIONS

Project:

NPDES Monthly (Leadwood)

Pace Project No.:

60162285

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055 Nevada Certification #: KS000212008A Oklahoma Certification #: 9205/9935 Texas Certification #: T104704407-13-4 Utah Certification #: KS000212013-3 Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS





SAMPLE SUMMARY

Project:

NPDES Monthly (Leadwood)

Pace Project No.:

60162285

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|-------------|--------------|--------|----------------|----------------|
| 60162285001 | LEADWOOD 001 | Water | 01/28/14 09:30 | 01/31/14 09:00 |
| 60162285002 | LEADWOOD 002 | Water | 01/28/14 09:40 | 01/31/14 09:00 |

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project:

NPDES Monthly (Leadwood)

Pace Project No.:

60162285

| Lab ID | Sample ID | Method | Analysts | Analytes Reported Laboratory |
|-------------|--------------|----------|----------|------------------------------|
| 60162285001 | LEADWOOD 001 | SM 2540F | JML | 1 PASI-K |
| 60162285002 | LEADWOOD 002 | SM 2540F | JML | 1 PASI-K |





Project:

NPDES Monthly (Leadwood)

Results

Pace Project No.:

60162285

Sample: LEADWOOD 001

Lab ID: 60162285001

Collected: 01/28/14 09:30

Report

Limit

DF

1

Received: 01/31/14 09:00

Prepared

CAS No. Qual

Parameters 2540F Total Settleable Solids

Analytical Method: SM 2540F

Units

Total Settleable Solids

Date: 02/04/2014 11:47 AM

ND mL/L/hr

0.20

0.20

MDL

01/31/14 16:20

Analyzed





Project:

NPDES Monthly (Leadwood)

Results

Pace Project No.:

60162285

Sample: LEADWOOD 002

Lab ID: 60162285002

Collected: 01/28/14 09:40

MDL

DF

Received: 01/31/14 09:00

Prepared

Matrix: Water

CAS No.

Qual

2540F Total Settleable Solids

Parameters

Units Analytical Method: SM 2540F

Total Settleable Solids

Date: 02/04/2014 11:47 AM

ND mL/L/hr

0.20

Report

Limit

1 0.20

01/31/14 16:20

Analyzed





QUALIFIERS

Project:

NPDES Monthly (Leadwood)

Pace Project No.: 60162285

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for; but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 02/04/2014 11:47 AM

PASI-K Pace Analytical Services - Kansas City





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

NPDES Monthly (Leadwood)

Pace Project No.:

Date: 02/04/2014 11:47 AM

60162285

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|----------------------------|------------------------------|----------------------|------------------------|-------------------|---------------------|
| 60162285001 60162285002 | LEADWOOD 001 LEADWOOD 002 | SM 2540F SM 2540F | WET/45920 WET/45920 | | |



Sample Condition Upon Receipt

WO#: 60162285

| Client Name: DRC | | | • | Optional |
|--|------------------------|------------------------|------------------|--------------------------------|
| Courier: Fed Ex X UPS USPS Client | Commercial Pace | □ Other □ | | Proj Due Date: |
| racking #: 397456699679 P | ace Shipping Label Use | ed? Yes □ No | <u>/</u> 6 | Proj Name: |
| Custody Seal on Cooler/Box Present: Yes 🗹 No | Seals intact: Yes | y No □ | | |
| Packing Material: Bubble Wrap 🗆 Bubble Ba | gs/⊠ Foam ⊡ | None □ | Other 🗹 | ZPIC |
| Thermometer Used: T(239) / T-194 Ty | | | es received on | ice, cooling process has begun |
| Cooler Temperature: 0'6 | (circle o | | | ils of person examining |
| remperature should be above freezing to 6°C | | | contents: _/ | - 1/91/-1 |
| Chain of Custody present: | □Yes ☑No □N/A 1 | | | |
| Chain of Custody filled out: | □Yes □No ☑N/A 2 | . No coc | | |
| Chain of Custody relinquished: | □Yes □No ☑N/A 3 | • | | |
| Sampler name & signature on COC: | □Yes □No ØN/A 4 | , | | |
| Samples arrived within holding time: | Øyes □No □N/A 5 | i | | |
| Short Hold Time analyses (<72hr): | MYes □No □N/A 6 | 3. 3. J. | | |
| Rush Turn Around Time requested: | □Yes ÓNO □N/A | 7. | | |
| Sufficient volume: | Øyes □No □N/A | s. Lead wood | 001 - 1 | 128/14 0930 IBPIU |
| Correct containers used: | Yes No NA | | 602 - | V 0940 V |
| Pace containers used: | Tres ONO ONA | pivermines | 2 01- | 1 0845 1 |
| Containers intact: | Ziyes □No □N/A | 10. National | East - 1 | 28/14 0900 1AG35 |
| Unpreserved 5035A soils frozen w/in 48hrs? | □Yes □No ØN/A | 11. | | , |
| Filtered volume received for dissolved tests? | □Yes □No ☑N/A | 12. | | |
| Sample labels match COC: | ØYes □No □N/A | | | |
| Includes date/time/ID/analyses Matrix: | WT | 13. | | |
| All containers needing preservation have been checked. | □Yes □No ØN/A | | | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | □Yes □No N/A | 14. | | |
| Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics | □Yes ∕ No | Initial when completed | 1 | ot # of added |
| Trip Blank present: | Dyes DNo ZNA | | | |
| Pace Trip Blank lot # (if purchased): | | 15. | | |
| Headspace in VOA vials (>6mm): | OYes ONO DNIA | | | |
| | / | 16. | | |
| Project sampled in USDA Regulated Area: | □Yes □No PIN/A | 17. List State | | |
| | COC to Client? Y / | N Field Dat | a Required? | Y / N |
| Person Contacted: | Date/Time: | | | |
| Comments/ Resolution Per Amy Sanders, collecti Leadwood 001 and 1/28/1 | | | | 28/14 at 9:30am for |
| Project Manager Review mw fm (| (5) | Date 21 | 1114 | |



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| Section Require | n A d Client Information: | | Section B Required P | | Inform | mation: | | | | | Invoid | | formati | _ | | | | | | | | _ | | | | | | Pag | ge: | 1 | of | 1 | |
|--------------------|--------------------------------------|--|---------------------------------------|------------------------|---------------------|-----------|-----------|--------------------------|-----------|---------------------------|-----------------|-------------|--------------------------------|------------------|-------|---|----------|---------------|-----|-------------------|-----------|--------------------|----------|--------|-----------|----------------|------|-------------|-------------------------|--------------------------|-----------------|----------|------------|
| Compan | Y The Doe Ru | n Company | Report To | Amy | San | ders | | | | | Atten | | | \my \ | | | | | | | | 1 | | | | | | | | | | | |
| Address | PO Box 500 | | Сору То: | | | | | | | | Comp | pany ! | Name: | | | | | | | | | R | REGI | JLAT | ORY | AGE | ENCY | | | | GIST TO | | |
| | Viburnum, N | NO 65566 | | | | | | | | | Addre | ess: | F | OB | ox 5 | 00, 1 | Vibur | num, | МО | 655 | 66 | 3 | | VPDE: | s I | - G | ROUN | D W | ATER | 3 4 1 | DRINKING | WATER | |
| Email To | asanders@ | doerun.com | Purchase O | rder N | No. | | | | | | Pace Refer | Quote | , | | | | | | | | | | T 1 | JST | 1 | F RCRA F OTHER | | | | | | | |
| Phone | 573-689-4535 | Fax 573-244-8179 | Project Nan | ne: | NPD | DES Mont | hly (Lead | dwood) | | - | | Projec | ct J | lamie | e Ch | urch | | | | - | | | Site | Locat | ion | | МО | | | 7777 | //// | 7/// | |
| Reques | ted Due Date/TAT: | 5 - 7 Days | Project Num | nber: | | | | | | | | Profile | e #. | | | | | | | | | | | STA | TE: | _ | MO | | - 1 | | | | |
| | | | | | | | | | | | _ | | | | | | | | R | equ | este | d A | naly | sis Fi | Itere | d (Y | N) | | 77, | 1111 | 7/// | //// | /// |
| | Section D Required Client Informa | Valid Matrix MATRIX DRINKING WATER WATER WASTE WATER | DW WT | codes to left) | C=COMP) | COMP | OSITE | ECTED CCMPO END/GI | SITE | NOILO | | | P | rese | rvati | ives | T | YIN ! | N | N | N | N | N N | Т | | 1 | H | 7 | 2 | | | | /// |
| ITEM# | SAMPI (A-Z, 0-4 Sample IDs MUS | 9 / ,-) | P SL OL WP AR OT TS | MATRIX CODE (see valid | SAMPLE TYPE (G=GRAB | STA | | | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | H ₂ SO ₄ | HNO ₃ | NaOH. | Na ₂ S ₂ O ₃ | Methanol | Analysis Test | rss | Settleable Solids | Sulfate | Cd, Pb, Zn - Total | Hardness | 1 | | | | | Residual Chlorine (Y/N) | | / 62 | | |
| E00000000 | | | | | | DATE | TIME | DATE | TIME | S | 1 | 13 | 1-1- | + | 12 | 2 | - | | - | X S | S | 9 | -10 | + | H | + | + | - | | 13914 | riojecti | 10.7 240 | |
| 1 | | Leadwood 001 | | ww | | | | 1/30/14 | - | \vdash | 1 | + | + | + | + | H | + | | H | × | \forall | + | + | + | \forall | + | + | - | N | L | | | |
| 2 | | Leadwood 002 | | ww | G | | | 1/30/14 | | H | + | + | H | + | + | H | + | | | Ĥ | | \top | + | + | \forall | \top | | \sqcap | T | | | | - |
| 3 | | | | | | | | 1 | | T | T | T | H | + | 1 | H | \top | | | | | 1 | 1 | | П | | | П | | | | | |
| 5 | | | | | | | | | | T | 1 | | \Box | 十 | T | П | T | | Г | | | 1 | T | | | | | П | | | | | |
| 5 | | | | \vdash | | | | | | Т | T | | \Box | | | | | | | | | | | T | | | | | | | | | |
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| 8 | | | | | 1 | | | | | T | | T | П | I | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | I | | | | | | | | | | | | | | | | | 1 | | | | |
| 10 | | | | | | | | | | | | | | | | | | - 100 | L | | | _ | 1 | - | Ш | _ | _ | Ц | 1 | | | | |
| 11 | | | | | | 1 | | | | | | | П | | | | | 1 | L | | | 1 | 1 | 1 | | 1 | | | 1 | | | | |
| 12 | | | | | | | | | | L | | | П | 1 | | | | - 100 | | | | _ | - | | | | 1 | Ш | | | | | /57- H3 ja |
| | ADDITION | NAL COMMENTS | - 400 | REL | JNQU | ISHED BY | AFFILIAT | ION | DAT | E | | TIME | | | 1 | ACC | CEPTI | | | | | | | DAT | (38,00) | OF STREET | ME | ㄴ | _ | SAMP | LE CONDI | TIONS | |
| * 200,8 | Total Recoeverable Me | etals | | | T DECEM | Larry Hop | kins | The second | 1/30/ | 14 | | | | 4 | m | ~ | | - 1 | 24 | 54 | = | | 1 | /31/ | 14 | 09 | 00 | 0 | 16 | 4 | Y | 17 | |
| **analy | ted within 24 hours wit | h flagged data | | | | | | | | | | | | 7- | | | | | | | | | | | | | | | 1 | | | | |
| | | | | | | | SAMPL | ER NAME | AND SIGN | ATU | RE | | | | | | | | | | | | | | | | | ç | , | 8 7 | Sealed (Y/N) | nlact | (N.V.) |
| | | | | | | | | PRINT Nar | ne of SAM | PLER | : Lar | ry H | opkin | 15 | | | | | | | | | | | | | | D' ni ame I | in du | Received on Ice (Y/N) | ler S | les l | S N |
| 2 | | | | | | | | SIGNATUR | | | | | | | | | | | | | Sign | | | 1 | /30/ | 14 | | 1 3 | | Rec | Cooler | Samp | |